UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,634	12/28/2004	Christopher Davies	3556 P 006	9142

23424 7590 01/24/2006

WALLENSTEIN WAGNER & ROCKEY, LTD
311 SOUTH WACKER DRIVE
53RD FLOOR
CHICAGO, IL 60606

EXAMINER	
A, MINH D	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/519,634	DAVIES, CHRISTOPHER	
	Examiner	Art Unit	
	Minh D. A	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

TAN HO
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9/26/05; 7/11/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being unpatentable by Zimmerman et al (US 6,987,487).

Regarding claim 1, Zimmerman discloses an antenna system for an array of antenna elements having respective antenna feed lines, formed on a printed circuit board (250 and 260), with respective open circuits formed therein, the device including a body slidable relative to the printed circuit board and carrying a plurality of conductive strips (220 and 350)for forming an RF connection across respective open circuits, the strips being formed such that any given feed line(240) is lengthened by movement of the body in one direction and shortened by movement in an opposite direction. See

figures 2-7, col.3, lines 3-67 to col.8, lines 1-25.

Regarding claim 2, Zimmerman discloses the conductive strips are in the form of strips. See figure 2.

Regarding claim 3, Zimmerman discloses the set of conductive strips is oppositely sensed from another set, such that on movement in the one direction the one set of strips move to lengthen their respective feed lines, whilst the other set shorten their respective feed lines. See figure 2.

Regarding claim 4, Zimmerman discloses wherein the conductive strips are capacitively connected to their respective feed lines. See figure 2.

Regarding claim 5, Zimmerman discloses wherein the body is a rigid RF transparent block. See figures 2-7.

Regarding claim 6, Zimmerman discloses the conductive strips are printed, etched or formed on a surface of the block. See figures 2-7.

Regarding claim 7, ,Zimmerman discloses wherein the conductive strips are mounted on a circuit that is fixed to the block with the body of the circuit interposable between the block and the printed circuit board. See figure 2.

Regarding claim 8, Zimmerman discloses a low friction thin dielectric layer interposed between engaging surfaces of the board and the conductive strips.

Regarding claim 9, Zimmerman discloses a phase changing assembly including a printed circuit board for an array of antenna elements, the board having respective antenna feed lines formed thereon, each feed line having an open circuit formed

thereon, with the element slidably mounted with respect to the printed circuit and an actuator for causing the slidable movement. See figures 2-7, col.4, lines 1-67 to col.8, lines 1-25..

Regarding claim 10, Zimmerman discloses (Original) An assembly as claimed in claim 9 wherein the printed circuit board is elongate and the body is movable in a longitudinally axial path. See figures 1-7.

Regarding claim 11, Zimmerman disclose wherein the antenna elements are mounted in a vertical elongate array with the upper antennae connected to feed lines where length is lengthened when the body is moved in the one direction and the lower antenna elements are connected to the feed lines whose length is shortened when the body is moved in the one direction whereby a phase shift is caused along the length of the array. See figures 2-7.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sinsky (US 6,208,222) and West et al. (US 6,650,291) are cited to show a phase shifter array antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

Art unit 2821

1/21/06

TAN HO
PRIMARY EXAMINER